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Evaluation of
New Canal Point
Sugarcane Clones

1993–94 Harvest Season

ABSTRACT

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Replicated experiments at 9 locations representing 7 soils (Dania, Lauderhill, Pahokee, Terra Ceia, and Torry mucks; Pompano fine sand and Malabar sand) contained 28 new Canal Point (CP) clones of sugarcane (9 in the plant-cane and first-ratoon crops, and 10 in the second-ratoon crop). Eight plant-cane experiments included two additional new clones, and one plant-cane and all first-ratoon experiments included one additional new clone. Seven locations had muck soils, and two had sandy soils. Twenty-six experiments compared the cane and sugar yields of these clones, complex hybrids of *Saccharum* spp., with yields of CP 70–1133, a widely grown commercial cultivar in Florida. Each clone was rated for its susceptibility to disease.

On muck soils and on the only sandy soil on which it was tested in the plant-cane experiments, CP 89–1756 yielded significantly more metric tons of sugar per hectare (TS/H) than CP 70–1133. CP 89–1509 was not planted on the muck soils and was planted at only one location with a sandy soil where it yielded significantly more TS/H than CP 70–1133.

For data combined across all first-ratoon experiments, no clone yielded significantly more TS/H than CP 70–1133. However, CP 88–1508 had outstanding yields at the one location with Torry muck and at one of the two locations with a sandy soil.

CP 87–1490 yielded significantly more TS/H than CP 70–1133 in the second-ratoon experiments. However, CP 87–1490 was too susceptible to leaf scald to be recommended for commercial production in Florida. No other clone from the second-ratoon experiments had a TS/H yield significantly higher than that of CP 70–1133.

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EVALUATION OF NEW CANAL POINT SUGARCANE CLONES
1993–94 Harvest Season

B. Glaz, J.M. Shine, Jr., P.Y.P. Tai, J.D. Miller, C.W. Deren, J.C. Comstock, and O. Sosa, Jr.

Clonal selection at precommercial stages is one of the major components in the successful commercial production of sugarcane, complex hybrids of *Saccharum* spp. Although production of sugar per unit area is a very important characteristic, it is not the only factor on which cane is evaluated. In addition, analyses are made on the quantity of cane needed to produce a particular sugar yield and on the fiber content of the cane. The time of year and the duration that a clone yields its highest amount of sugar per unit area can be very important, since sugarcane harvest seasons extend from fall to spring. Because sugarcane is commercially grown in plant and ratoon crops, clones are evaluated accordingly. Florida growers have recently made a large-scale change from manual to mechanical harvesting. Therefore, clonal adaptability to mechanical harvesting is a trait that has recently gained in importance in Florida.

Information about the stability of a clone's performance across environments aids in selecting clones that will perform well across all environments. Stability measurements also enable identification of clones that will perform well only in specific environments. This stability factor is important in our evaluations because of the wide range of environments for growing sugarcane in Florida. Large temperature, moisture, soil, and other differences among environments compel us to identify location-specific clones because few clones do well in all environments.

Clones with the desired agronomic characteristics also must be productive in the presence of harmful diseases, insects, and weeds. Determination of pest resistance and tolerance requires several years. Some pests rapidly develop new, virulent races or strains. Clonal resistance to such pathogens often changes over time, so we cannot regard any clone as permanently resistant. The selection team must try not to discard clones that have sufficient resistance or tolerance to pests, but it also must discard clones that are too susceptible to pests to be grown commercially. Glaz et al. (1986) presented a formula and procedure to help growers distribute their available sugarcane cultivars while considering possible attacks of new pests.

Glaz is an agronomist, Tai and Miller are research geneticists, Comstock is a research plant pathologist, and Sosa is a research entomologist, U.S. Department of Agriculture, Agricultural Research Service, U.S. Sugarcane Field Station, Star Route, Box 8, Canal Point, FL 33438. Shine is a research extension director with the Florida Sugar Cane League, Inc., P.O. Drawer 1208, Clewiston, FL 33440. Deren is an associate professor in genetics with the Everglades Research and Education Center, Institute of Food and Agricultural Sciences, University of Florida, P.O. Box 8003, Belle Glade, FL 33430.

Florida sugarcane growers and scientists have dealt with serious pests for more than a decade. The pest that has caused the most difficulty in selecting resistant cultivars has been sugarcane rust, *Puccinia melanocephala* Syd & P. Syd. The disease against which Florida sugarcane growers and scientists have had the most success in selecting resistant cultivars has been sugarcane smut, *Ustilago scitaminea* Syd and P. Syd. Florida sugarcane growers added leaf scald, *Xanthomonas albilineans* (Ashby) Dow, to their list of major sugarcane diseases several years ago. Now, the list may be further updated if yellow leaf syndrome is verified as a disease.

Damaging insect pests in Florida of long duration are the sugarcane borer, *Diatraea saccharalis* (F.); the sugarcane wireworm, *Melanotus communis*; and the sugarcane grub, *Ligyrus subtropicus*. An insect discovered in Florida in 1990, the sugarcane lace bug, *Leptodictya tabida* (Hall 1991), has also become a pest, selectively feeding upon some clones.

Each year at Canal Point, FL, we evaluate approximately 100,000 seedlings from crosses derived from a diverse germplasm collection, although perhaps not a sufficiently diverse cytoplasmic base (Mangelsdorf 1983). This year most of the parental clones in our program originated from Canal Point. In addition, clones used as parents this season came from Florida (Clewiston), Louisiana, and Texas, and from Australia, Brazil, New Guinea, Taiwan, and Venezuela. Also, we used several feral *Saccharum officinarum* and *Saccharum robustum* clones and interspecific hybrids of these clones as parents. One parent from each of five Canal Point (CP) clones included in this report (CP 88–1066, CP 88–1165, CP 88–1409, CP 88–1834, and CP 88–1836) came from other breeding programs. CP 88–1066, CP 88–1165, and CP 88–1409 had a parent from the sugarcane breeding program in Clewiston, FL; and CP 88–1834 and CP 88–1836 had a parent selected from a breeding program in Louisiana (table 1).

We select about 1 percent of the 100,000 seedlings over a 2-year period at Canal Point. The first year we visually select about 10 percent, or 10,000 of the available seedlings, and vegetatively or clonally propagate them. From this stage on in the selection program, all reproduction is vegetative, hence the use of genetically identical clones, assuming no mutations. The second year we visually select about 10 percent of these 10,000 clones. From these 1,000 selected clones, we select 131 for continued testing in replicated experiments for 2 years at 4 locations. The primary selection criteria for the groups of 1,000 and 131 clones are disease resistance, cane tonnage, and sugar estimates.

The 10 or 11 most promising clones receive continued testing for 3 more years in the experiments reported in this

annual publication. Tai and Miller (1989) described this selection program in more detail. This year's report is the first in this series in which tonnage estimates are based solely on stalk counts and stalk samples. In previous reports, tonnage estimates were based on actual plot weights. The new procedure was instituted because weighing plots did not allow us to simulate mechanical harvesting conditions. Clones that successfully complete these experimental phases undergo 2 to 4 years of evaluation and seed cane increase by the Florida Sugar Cane League, Inc., before commercial release. Some of this evaluation occurs concurrently with the evaluations described herein.

Clones with characteristics that may be valuable for sugarcane breeding programs are identified throughout the selection process. Sugarcane breeders often seek clones with specific characteristics. From May 1993 to April 1994, Australia, Colombia, Costa Rica, Guatemala, Mauritius, Morocco, Nicaragua, Pakistan, Spain, Switzerland, Taiwan, Thailand, and Zimbabwe received CP clones or seeds from Canal Point. California, Maryland, Minnesota, Ohio, and two other locations in Florida also received Canal Point clones.

TEST PROCEDURES

In 26 experiments, 28 new CP clones (9 clones of the CP 89 series in the plant crop, 9 clones of the CP 88 series in the first-ratoon crop, and 10 clones of the CP 87 series in the second-ratoon crop) were sampled and harvested at 9 growers' farms (table 1). In the plant-cane experiments, three additional clones of the CP 89 series were tested at some of the nine locations—CP 89–1268 and CP 89–1756 were tested at eight locations, and CP 89–1509 was tested at one location. In the first-ratoon experiments, two additional clones of the CP 88 series were tested at some of the locations—CP 88–1409 was tested at the seven muck locations, and CP 88–1540 was tested at the two sites having sandy soils.

CP 70–1133, the third most widely grown clone in Florida (Glaz 1994), was the only reference clone in eight of the nine plant-cane experiments and the primary reference clone in the ratoon experiments. CP 73–1547, the fifth most widely grown clone in Florida (Glaz 1994), was a secondary reference clone at one location with a sandy soil in the plant-cane experiments. CP 72–1210, the fourth most widely grown clone in Florida (Glaz 1994), was a secondary reference clone in the ratoon experiments.

Plant-crop, first-ratoon, and second-ratoon experiments were conducted at each location except at the Lykes Brothers' Farm (near Moore Haven in Glades County), which had no second-ratoon experiment. The first-ratoon experiment at Okeelanta Corp. (south of South Bay) and

the second-ratoon experiment at A. Duda and Sons' Farm (southeast of Belle Glade) were conducted on Dania muck soils. As described by McCollum et al. (1976), of the muck soils in South Florida comprised primarily of decomposed sawgrass (*Cladium jamaicense* Crantz), Dania is the shallowest. The other muck soils similar to Dania muck, listed in order of increasing depth, are Lauderhill, Pahokee, and Terra Ceia mucks.

Six experiments were conducted on Lauderhill mucks—the three experiments at Wedgworth Farms (east of Belle Glade), the plant-cane and second-ratoon experiments at Okeelanta Corp., and the first-ratoon experiment at Duda.

Seven experiments were conducted on Pahokee mucks. These included the three experiments at South Florida Industries (near 20-Mile Bend), the plant-cane experiments at Duda and Knight's Farm (southwest of 20-Mile Bend in Palm Beach County), and the two ratoon experiments at New Farm, Inc. (east of Canal Point). Three experiments were conducted on Terra Ceia mucks—the plant-cane experiment at New Farm and the two ratoon experiments at Knight's Farm. The three experiments at Eastgate (north of Belle Glade) were on Torry muck, the three experiments at Hilliard Brothers' Farm (west of Clewiston) were on Malabar sand, and the plant-cane and first-ratoon experiments at Lykes Brothers' Farm were on Pompano fine sand.

In all but 2 of the 26 experiments, clones were planted with 2 lines of seed cane per furrow. In the two experiments at Lykes Brothers' Farm, clones were planted with one line of seed cane per furrow. In all 26 experiments, clones were planted in plots arranged in randomized complete-block designs with four replications. Each plot was 10.7 meters long and 6.1 meters wide (0.0065 hectare), except in the plant-cane experiment at Lykes Brothers' Farm where plots were 7.3 meters long and 6.1 meters wide. The distance between rows was 1.5 meters, and 1.5-meter alleys separated the front and back ends of the plots. The margins of the experiments were protected with an extra row of sugarcane on each side and an extra 1.5 meters of sugarcane in the front and back. The fourth row of each four-row plot was not buffered from the first row of its adjacent plot in the ratoon experiments. In the plant-cane experiments, most plots and border rows were of the same clone.

Each clone was rated for its reaction to sugarcane smut, sugarcane rust, and leaf scald by natural infection. In addition, each clone was artificially inoculated with smut and leaf scald and later rated for its susceptibility in separate experiments. Before reaching this stage of selection, clones were tested by artificial inoculation for susceptibility to sugarcane mosaic virus and eye spot (*Bipolaris sacchari*).

The farm management at each location controlled sugar-cane management practices, such as fertilization, cultivation, and pest control. Two samples of ten stalks each were sampled per plot from unburned cane in each experiment between October 14, 1993, and March 23, 1994. The range of sample dates for each crop was as follows: December 6, 1993, to February 23, 1994, for the plant crop; October 26, 1993, to March 23, 1994, for the first-ratoon crop; and October 14, 1993, to February 24, 1994, for the second-ratoon crop. Crusher juice from the stalks was analyzed for Brix and sucrose, and theoretical recoverable yields of kg 96° sugar per metric ton of cane (KS/T) were determined as a measure of sugar production after the stalk samples were transported to the Agricultural Research Service's laboratory at Canal Point for weighing and milling.

Total harvestable stalks per plot were counted between June 30, 1993, and October 1, 1993. Yields of metric tons of cane per hectare (TC/H) were calculated by multiplying stalk weights by number of stalks. Yields of metric tons of sugar per hectare (TS/H) were calculated by multiplying TC/H by KS/T and dividing by 1,000.

In this report all values for yield of sugar per metric ton of cane and for yield of sugar per hectare are theoretical recoverable yields. An explanation of the procedure used to calculate these yields using fiber percentages is in Legendre (1992).

Analyses of variance were done using the procedures described by McIntosh (1983). F-ratios were chosen according to a mixed model, with treatments (clones) fixed and locations random. The source of variation that corresponded to the error term for the effect being tested was used to calculate the least significant difference (LSD). LSD was used regardless of significance of F-ratios in all analyses to protect against high type-II error rates (Glaz and Dean 1988). Significant differences were sought at the 10 percent probability level.

Analyses of clonal stability across locations were done by using the procedures recommended in Shukla (1972). For each clone, the stability-variance parameter of Shukla was subsequently used to calculate a stability-safety index as described by Eskridge (1990). The mean yield of the clone and the stability of the clone across locations influences the value of this stability-safety index. The higher the stability-safety index, the more likely the clone is to have high yields at all locations.

RESULTS AND DISCUSSION

Table 1 lists the parentage, percentage of fiber, and reactions to smut, rust, and leaf scald diseases for each clone included in these experiments. Tables 2–4 contain the results of the plant-cane experiments on muck soils, and

table 5 contains the results of the plant-cane experiments on sandy soils. Tables 6–8 contain the results of the first-ratoon experiments on muck soils, and table 9 contains the results of the first-ratoon experiments on sandy soils. Tables 10–12 contain the results of the second-ratoon experiments. Table 13 lists the dates that stalks were counted in each experiment.

Plant-Cane Crop, Muck Soils

CP 89–1756 yielded significantly more metric tons of sugar per hectare (TS/H) than CP 70–1133 (table 4). The outstanding TS/H yield of CP 89–1756 was mainly due to its high kilograms of sugar per metric ton of cane (KS/T), which was significantly more than for all other clones except CP 89–1325 (table 3). The yield of metric tons of cane per hectare (TC/H) of CP 89–1756 was similar to that of CP 70–1133 (table 2). As shown by its stability-safety indices, CP 89–1756 had consistently high TC/H, KS/T, and TS/H yields across environments (tables 2–4).

The TS/H yields of CP 89–2143, CP 89–1945, CP 89–2377, CP 89–2376, and CP 89–1717 were similar to the TS/H yield of CP 70–1133 (table 4). The first three of these clones (CP 89–2143, CP 89–1945, and CP 89–2377) were the highest ranking clones in yields of TC/H, although none yielded significantly more TC/H than CP 70–1133 (table 2). In addition to their high ranking in TC/H, CP 89–1945 and CP 89–2377 yielded significantly more KS/T than CP 70–1133 (table 3). CP 89–2376 and CP 89–1717 were similar to CP 70–1133 in TC/H, but CP 89–2376 yielded significantly more KS/T than CP 70–1133 (tables 2 and 3).

Plant-Cane Crop, Sandy Soils

No new clone yielded significantly more TS/H than CP 70–1133 at both locations with sandy soils (table 5). However, CP 89–1509 yielded significantly more TS/H than any clone planted at Hilliard Bros., which was the only location where CP 89–1509 was planted. The outstanding TS/H yield of CP 89–1509 was mainly due to its high TC/H yield, which was significantly more than that of any other clone at Hilliard Bros. (table 5).

CP 89–1756 was planted on sandy soils only at Lykes Bros. and yielded significantly more TS/H than CP 70–1133 (table 5). The outstanding TS/H yield for CP 89–1756 was mainly due to its high TC/H yield (table 5); it was one of two clones that yielded significantly more TC/H than CP 70–1133.

Plant-Cane Crop, General Characteristics

All of the clones in the CP 89 series had fiber levels within the normal range (table 1). No clone in this group has yet been classified as too susceptible to smut, rust, or leaf scald

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for commercial production (table 1). However, low levels of rust have been found on CP 89–1268, CP 89–1632, CP 89–1643, CP 89–1717, CP 89–1756, and CP 89–2376. Based on innoculation tests and natural infection tests recorded mostly at Okeelanta Corp. and Eastgate Farms, seven clones of the CP 89 series (CP 89–1268, CP 89–1331, CP 89–1632, CP 89–1643, CP 89–1717, CP 89–1945, and CP 89–2376) were classified as having intermediate susceptibility to leaf scald (table 1). CP 89–2376 had substantially more leaf scald at Eastgate Farms than the other clones.

First-Ratoon Crop, Muck Soils

No clone yielded significantly more TC/H, KS/T, or TS/H than CP 70–1133 (tables 6–8). Last year as plant cane, CP 88–1834 and CP 88–1561 yielded significantly more TS/H than CP 70–1133 (Glaz et al. 1993). This year, CP 88–1834 and CP 88–1561 ranked lower, although not significantly different, than CP 70–1133 in TS/H (table 8). Last year, CP 88–1834 yielded significantly more KS/T than CP 70–1133 (Glaz et al. 1993) but this year yielded significantly less KS/T than CP 70–1133 (table 7).

CP 88–1912, CP 88–1508, and CP 88–1762 yielded similarly to CP 70–1133 both last year as plant cane (Glaz et al. 1993) and this year as first ratoon (tables 6–8). CP 88–1508 had extremely low stability-safety indices for TC/H and TS/H (tables 6 and 8). Yields of CP 88–1508 were moderate to mediocre at all locations except on the Torry muck soil at Eastgate Farms. At Eastgate, the TC/H and TS/H yields of CP 88–1508 were significantly higher than those of any other clone, and its KS/T yield was significantly higher than for any other clone except CP 88–1836 (tables 6–8).

Last year as plant cane, CP 88–1409 showed promise due to its high KS/T yields and mostly erect growth habit (Glaz et al. 1993). This year its growth habit remained similarly erect, but its KS/T yield was moderate rather than outstanding (table 7). Also, its TC/H yield was very low this year (table 6), which caused its TS/H yield to be significantly less than that of CP 70–1133 (table 8).

First-Ratoon Crop, Sandy Soils

No clone yielded significantly more TS/H than CP 70–1133 averaged across both locations with sandy soils (table 9). However, CP 88–1508, which also had outstanding yields on the Torry muck soil (tables 6–8), had TC/H and TS/H yields significantly higher than those of CP 70–1133 on the Pompano fine sand at Lykes Bros. (table 9). Last year as plant cane, CP 88–1508 had outstanding TC/H, KS/T, and TS/H yields averaged across both locations with sandy soils. But the high TC/H and TS/H averages were due primarily to the high yields at Lykes Bros., and the high

KS/T yield was due primarily to its KS/T yield at Hilliard Bros. (Glaz et al. 1993).

CP 88–1540 and CP 88–1066 also yielded more TS/H than CP 70–1133 last year in the plant-cane crop (Glaz et al. 1993). This year, both clones had TC/H, KS/T, and TS/H yields not significantly different from those of CP 70–1133 (table 9). As was the case last year for the plant-cane crop (Glaz et al. 1993), the growth habit of CP 88–1066 was not conducive to mechanical harvest this year in the first-ratoon crop.

First-Ratoon Crop, General Characteristics

CP 88–1066 and CP 88–1762 had fiber percentages slightly higher than those normally found in commercial sugarcane cultivars in Florida. CP 88–1066, CP 88–1165, CP 88–1508, CP 88–1573, CP 88–1836, and CP 88–1912 had intermediate rust susceptibility, and CP 88–1912 had intermediate susceptibility to leaf scald (table 1).

Second-Ratoon Crop

CP 87–1490 was the only clone in the CP 87 series to yield significantly more TS/H than CP 70–1133 and had an outstanding stability-safety index for TS/H (table 12). CP 87–1490 also yielded significantly more TC/H than CP 70–1133 (table 10) and had KS/T yields similar to those of CP 70–1133 (table 11). Two years ago as plant cane, CP 87–1490 had TC/H, KS/T, and TS/H yields similar to those of CP 70–1133 (Glaz et al. 1992). Last year in the first ratoon, CP 87–1490 yields ranked similar to those of this year in comparison to CP 70–1133 yields; its TC/H and TS/H were significantly higher than those of CP 70–1133 and its KS/T yields were similar (Glaz et al. 1993). CP 87–1490 was the only clone in this group that yielded significantly more TS/H than CP 70–1133 for the 3-year average of plant cane through second ratoon (data not shown). Two concerns with CP 87–1490 are its intermediate susceptibility to rust and its susceptibility to leaf scald.

No other clone besides CP 87–1490 yielded significantly more TS/H than CP 70–1133 (table 12). However, CP 87–1475, CP 87–1226, CP 87–1248, and CP 87–1737 yielded significantly more TC/H than CP 70–1133 (table 10). Three of these clones (CP 87–1475, CP 87–1226, and CP 87–1737) yielded significantly less KS/T than CP 70–1133 (table 11).

Due primarily to high KS/T yields, CP 87–1274 was a promising clone as plant cane (Glaz et al. 1992) and as first-ratoon cane (Glaz et al. 1993). As second-ratoon cane, its KS/T yield was not high, and subsequently its TS/H yield was only moderately high (tables 11 and 12). These moderate yields combined with its moderate susceptibility to rust (table 1) has lessened our opinion of the cultivar. All

clones of the CP 87 series had at least intermediate susceptibilities to smut, rust, or leaf scald except for CP 87–1475 (table 1).

SUMMARY

No clone in the plant-cane experiments excelled on all muck and sandy soils. However, CP 89–1756 had high yields everywhere it was planted, which was on all muck soils and one sandy soil. On muck soils, CP 89–1756 had high KS/T yields whereas on the sandy soil its strengths were its TC/H and TS/H yields. On the muck soils, CP 89–1717, CP 89–1945, CP 89–2143, CP 89–2376, and CP 89–2377 had TS/H yields similar to the TS/H yield of CP 70–1133. CP 89–1509 was not planted on the muck soils and was planted on only one sandy soil. At this location, CP 89–1509 had high TS/H yields, due primarily to high TC/H yields.

No CP 88 series clone from this year's first-ratoon experiments had significantly better TS/H yields than CP 70–1133. However, several clones—CP 88–1508, CP 88–1540, CP 88–1561, CP 88–1762, and CP 88–1912 had 2-crop (plant cane and first-ratoon) mean TS/H yields similar to those of CP 70–1133. CP 88–1540 was tested only on sandy soils. CP 88–1508 had moderate to mediocre yields at most locations except for the location with Torry muck and one location with sandy soil, where it had outstanding yields.

No clone from the CP 87 series (those from the second-ratoon experiments) had acceptable disease resistance combined with high yields from the plant-cane through the second-ratoon crop. The highest yielding clone from this group was CP 87–1490, but it was too susceptible to leaf scald to be recommended for commercial use in Florida. CP 87–1274 had promising plant-cane and first-ratoon TS/H yields, due primarily to high KS/T yields. However, its second-ratoon KS/T yields were not high, and although its combined plant-cane through second-ratoon yields of TS/H were moderately high, they were not sufficiently high to overcome the clone's moderate susceptibility to rust.

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Table 1.— Parentage, fiber content, and ratings for smut, rust, and leaf-scald susceptibility of CP 70–1133, CP 72–1210, CP 73–1547, and 33 new sugarcane clones

Clone	Parentage	Percent fiber	Rating*		
			Smut	Rust	Leaf scald
CP 70–1133	67 P 6 CP 56–63†	10.37	R	R	R
CP 72–1210	CP 65–357 x CP 56–63	10.04	R	S	I
CP 73–1547	CP 66–1043 x CP 56–63	9.44	R	I	R
CP 87–1018	CP 79–1580 x CP 77–1055	11.45	R	I	I
CP 87–1121	CP 80–1151 x CP 77–1008	11.67	R	I	I
CP 87–1226	CP 78–1610 x CP 72–1210	10.60	R	I	S
CP 87–1248	CP 78–1610 x CP 72–1210	9.92	R	I	I
CP 87–1274	CP 65–357 x CP 78–1701	10.30	R	I	R
CP 87–1475	CP 80–1151 x CP 72–1210	11.77	R	R	R
CP 87–1490	CP 78–1697 x CP 75–1632	10.11	R	I	S
CP 87–1628	CP 79–1374 x CP 69–1052	10.78	I	R	R
CP 87–1733	CP 79–1374 x CP 80–1161	8.66	R	R	S
CP 87–1737	CP 79–1374 x CP 80–1161	10.21	R	R	I
CP 88–1066	CL 68–386 x CP 80–1827	11.70	R	I	R
CP 88–1165	CL 61–620 x CP 81–1302	10.47	R	I	R
CP 88–1409	CL 61–620 x CP 80–1953	9.65	R	R	R
CP 88–1508‡	CP 81–1238 x CP 78–1610	10.67	R	I	R
CP 88–1540‡	CP 81–1238 x CP 78–1610	10.19	R	R	R
CP 88–1561‡	CP 81–1238 x CP 80–1827	10.21	R	R	R
CP 88–1573	CP 81–1238 x CP 71–1038	9.39	R	I	R
CP 88–1762‡	85 P 6 CP 80–1743	11.41	R	R	R
CP 88–1834	CP 72–1210 x LCP 81–30	10.50	R	R	R
CP 88–1836	CP 72–1210 x LCP 81–30	9.36	R	I	R
CP 88–1912	85 P 6 CP 78–2114	10.18	R	I	I
CP 89–1268‡	CP 78 2114 x CP 78–1610	9.98	R	I	I
CP 89–1325	CP 80–1557 x CP 72–1210	10.51	R	R	R
CP 89–1331	CP 81–1238 x CP 72–2086	9.50	R	R	I
CP 89–1509‡	86 P 19 CP 80–1827	10.16	R	R	R
CP 89–1632	CP 73–1547 x CP 81–1254	9.62	R	I	I
CP 89–1643	CP 73–1547 x CP 81–1254	9.89	R	I	I
CP 89–1717	CP 81–2149 x CP 81–1238	8.89	R	I	I
CP 89–1756‡	86 P 30 CP 81–2149	9.62	R	I	R
CP 89–1945	CP 72–2086 x CP 78–1610	10.03	R	R	I
CP 89–2143‡	CP 81–1254 x CP 72–2086	9.70	R	R	R
CP 89–2376‡	Unknown	9.79	R	I	I
CP 89–2377‡	Unknown	9.58	R	R	R

* R = resistant enough for commercial production; S = too susceptible for production; I = intermediate susceptibility (available data not sufficiently persuasive to determine susceptibility).

† 67 P 6 = 6th polycross made in 1967 crossing season. Female parent (CP 56–63) exposed to pollen from several clones; therefore, male parent of CP 70–1133 unknown. Similarly, CP 88–1762, CP 88–1912, CP 89–1509, and CP 89–1756 are progeny of polycrosses.

‡ Seed cane currently being increased by Florida Sugar Cane League, Inc., for potential release.

Table 2.— Yields of cane, in metric tons per hectare, from plant cane on Lauderhill, Pahokee, Terra Ceia, and Torry mucks

	Mean yield by soil type, farm, and sampling date								
	Lauderhill muck		Pahokee muck			Terra Cela muck	Torry muck		Mean yield, all farms
Clone	Wedg-worth 12/6/93	Okeelanta Corp. 1/19/93	S. Fla. Ind. 12/10/93	Duda 1/26/94	Knight 2/10/94	New Farm 12/10/93	Eastgate 2/23/94	Stabil-ity-safety Index*	
CP 89–2143	161.14	208.63	132.92	211.02	125.99	147.32	209.43	96.28	170.92
CP 89–1945	152.17	185.88	132.64	168.34	111.39	164.35	207.41	75.88	160.31
CP 89–2377	152.82	199.16	131.96	183.61	131.43	137.82	181.78	89.99	159.80
CP 89–1756	141.83	163.54	145.31	209.90	130.87	151.15	168.16	82.57	158.68
CP 70–1133	150.97	198.98	161.75	171.22	114.40	138.33	170.49	77.62	158.02
CP 89–2376	162.20	161.77	137.72	180.82	128.26	137.02	195.01	85.21	157.54
CP 89–1717	141.67	187.19	113.24	200.87	150.21	123.72	169.82	74.61	155.25
CP 89–1268	156.01	158.04	119.53	193.48	95.36	128.01	183.48	73.44	147.70
CP 89–1325	135.80	157.45	103.06	196.82	122.70	131.95	132.74	57.73	140.07
CP 89–1632	146.33	174.64	131.90	158.34	101.04	116.57	144.96	64.62	139.11
CP 89–1643	152.89	128.06	120.43	174.25	110.71	104.22	154.17	55.84	134.96
CP 89–1331	132.52	153.18	111.18	174.56	90.57	100.92	151.79	62.94	130.67
Mean†	148.86	173.04	128.47	185.27	117.74	131.78	172.44	74.73	151.09
LSD(p=0.1)	15.05	22.60	23.20	37.37	22.53	21.18	25.41		13.41
C.V.(%)‡	8.93	11.17	10.59	17.64	17.33	11.22	16.70		14.30

* Stability-safety index for each clone is calculated at p = 0.10 by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 11.09 t/ha at p = 0.10.
‡ C.V. = coefficient of variation.

Table 3.— Theoretical recoverable yields of 96° sugar, in kilograms per metric ton of cane per hectare, from plant cane on Lauderhill, Pahokee, Terra Ceia, and Torry mucks

| | Mean yield by soil type, farm, and sampling date | | | | | | | | |
| | Lauderhill muck | | Pahokee muck | | | Terra Cela muck | Torry muck | | |
Clone	Wedg-worth 12/6/93	Okeelanta Corp. 1/19/94	S. Fla. Ind. 12/10/93	Duda 1/26/94	Knight 2/10/94	New Farm 12/10/93	Eastgate 2/23/94	Stabil-ity-safety Index*	Mean yield, all farms
CP 89–1325	118.9	127.5	127.5	119.0	131.2	129.0	136.1	112.8	126.7
CP 89–1756	109.5	126.6	127.8	115.9	125.7	125.9	136.6	106.4	124.0
CP 89–1331	112.8	125.4	118.5	118.0	121.2	114.0	128.6	103.6	119.8
CP 89–1643	110.0	123.7	122.9	118.3	121.2	116.9	125.2	104.7	119.7
CP 89–1945	109.6	123.4	121.2	120.2	116.2	117.8	125.8	101.3	119.2
CP 89–2376	113.3	121.2	123.6	112.0	121.6	120.2	119.4	103.0	118.8
CP 89–2377	110.0	116.8	114.4	114.3	123.8	114.3	126.7	102.8	117.2
CP 89–1268	109.5	113.0	124.7	109.8	121.4	118.0	121.8	100.7	116.9
CP 89–1717	109.4	115.1	121.9	104.9	124.7	115.3	119.4	99.4	115.8
CP 89–2143	105.5	120.4	102.4	104.8	122.9	111.6	121.3	91.9	112.7
CP 70–1133	107.0	106.8	116.2	104.7	124.6	107.9	119.4	94.5	112.4
CP 89–1632	110.2	108.8	107.2	105.0	119.2	110.4	116.9	94.5	111.1
Mean†	110.5	118.9	119.0	112.2	122.8	116.8	124.8	101.3	117.9
LSD(p=0.1)	6.6	7.8	8.6	8.6	6.7	7.3	4.6		3.6
C.V.(%)‡	6.8	6.0	8.9	8.4	5.9	7.2	3.0		6.8

* Stability-safety index for each clone is calculated at $p = 0.10$ by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 2.7 kg of sugar per metric ton of cane at $p = 0.10$.
‡ C.V. = coefficient of variation.

Table 4.— Theoretical recoverable yields of 96° sugar, in metric tons per hectare, from plant cane on Lauderhill, Pahokee, Terra Ceia, and Torry mucks

| | Mean yield by soil type, farm, and sampling date | | | | | | | | |
| | Lauderhill muck | | Pahokee muck | | | Terra Cela muck | Torry muck | Stability-safety Index* | Mean yield, all farms |
Clone	Wedgworth 12/6/93	Okeelanta Corp. 1/19/94	S. Fla. Ind. 12/10/93	Duda 1/26/94	Knight 2/10/94	New Farm 12/10/93	Eastgate 2/23/94		
CP 89-1756	15.617	20.726	18.651	24.351	16.432	18.953	23.096	10.780	19.689
CP 89-2143	16.976	25.187	13.449	22.572	15.476	16.428	25.493	9.674	19.368
CP 89-1945	16.731	22.938	16.117	20.246	13.011	19.370	26.068	9.338	19.212
CP 89-2377	16.837	23.178	15.104	20.835	16.237	15.807	23.093	10.669	18.727
CP 89-2376	18.417	19.549	17.015	20.410	15.608	16.536	23.247	10.537	18.683
CP 89-1717	15.465	21.575	13.886	20.960	18.714	14.293	20.252	8.487	17.878
CP 70-1133	16.173	21.268	18.762	18.074	14.271	14.962	20.407	8.498	17.702
CP 89-1325	16.161	19.717	13.150	23.399	16.120	16.994	18.060	7.989	17.657
CP 89-1268	17.084	17.785	14.900	21.304	11.613	15.081	22.306	8.487	17.153
CP 89-1643	16.777	15.883	14.826	20.699	13.370	12.088	19.302	7.074	16.135
CP 89-1331	14.959	19.210	13.188	20.577	11.067	11.516	19.568	7.454	15.726
CP 89-1632	16.078	18.964	14.181	16.578	12.087	12.923	16.946	6.719	15.394
Mean†	16.440	20.498	15.269	20.834	14.500	15.413	21.486	8.809	17.777
LSD(p=0.1)	2.062	2.874	2.987	4.545	2.935	2.615	3.562		1.916
C.V.(%)‡	10.78	12.74	15.36	20.54	17.25	13.25	17.92		16.33

* Stability-safety index for each clone is calculated at p = 0.10 by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 1.414 t/ha at p = 0.10.
‡ C.V. = coefficient of variation.

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Table 5.— Harvest yields of cane and sugar from plant cane on Malabar sand and Pompano fine sand

Clone	Yields of cane			Yields of 96° sugar			Yields of 96° sugar		
	Mean yield by soil type, farm, and sampling date			Mean yield by soil type, farm, and sampling date			Mean yield by soil type, farm, and sampling date		
	Malabar sand Hilliard Bros. 12/14/93	Pompano fine sand Lykes Bros. 1/10/94	Mean yield, both farms	Malabar sand Hilliard Bros. 12/14/93	Pompano fine sand Lykes Bros. 1/10/94	Mean yield, both farms	Malabar sand Hilliard Bros. 12/14/93	Pompano fine sand Lykes Bros. 1/10/94	Mean yield, both farms
	—metric tons per hectare—			—kg per metric ton of cane—			—metric tons per hectare—		
CP 89–1325	102.42	57.39	79.90	140.0	120.0	130.0	14.333	6.945	10.639
CP 89–2377	102.60	64.24	83.42	125.4	116.1	120.7	12.863	7.397	10.130
CP 89–1643	88.24	63.08	75.66	136.6	124.2	130.4	12.011	7.839	9.925
CP 70–1133	95.96	53.98	74.97	132.2	121.4	126.8	12.663	6.550	9.606
CP 89–1331	84.64	52.02	68.33	137.5	132.2	134.9	11.628	6.874	9.251
CP 89–2143	81.02	57.11	69.06	139.7	125.1	132.4	11.340	7.109	9.225
CP 89–1632	82.55	45.17	63.86	142.6	137.1	139.8	11.710	6.205	8.958
CP 89–1945	89.96	47.52	68.74	135.4	120.8	128.1	12.075	5.737	8.906
CP 89–2376	59.32	63.45	61.38	137.6	122.9	130.2	8.115	7.786	7.950
CP 89–1717	68.95	46.02	57.49	133.1	123.4	128.3	9.175	5.636	7.405
CP 89–1268		51.35			120.0			6.196	
CP 89–1756		64.26			121.2			7.796	
CP 89–1509	141.49			136.5			19.365		
CP 73–1547	115.88			133.3			15.375		
Mean*	92.75	55.47	70.28	135.8	123.7	130.2	12.554	6.839	9.200
LSD(p=0.1)	15.69	10.17	18.97	7.9	7.8	5.9	2.230	1.121	2.520
C.V.(%)†	11.99	16.77	18.30	6.9	6.2	6.2	11.14	18.58	18.07

* LSD's for location means = 21.52 metric tons of cane per hectare, 3.3 kg of sugar per metric ton of cane, and 1.065 metric tons of sugar per hectare at $p = 0.10$.
† C.V. = coefficient of variation.

Table 6.— Yields of cane, in metric tons per hectare, from first-ratoon cane on Dania, Lauderhill, Pahokee, Terra Cela, and Torry mucks

Mean yield by soil type, farm, and sampling date

Clone	Dania muck Okeelanta Corp. 1/19/94	Lauderhill muck Wedgworth 12/6/93	Lauderhill muck Duda 12/28/93	Pahokee muck New Farm 10/26/93	Pahokee muck S. Fla. Ind. 12/10/93	Terra Cela muck Knight 12/7/93	Torry muck Eastgate 3/23/94	Stability-safety Index*	Mean yield, all farms
CP 88–1165	199.74	149.16	207.65	149.34	169.31	149.94	162.76	100.72	169.70
CP 88–1912	188.93	176.60	183.67	152.32	196.93	136.75	144.31	92.72	168.50
CP 70–1133	157.62	132.99	155.21	163.99	178.02	132.13	208.23	104.38	161.17
CP 88–1508	152.29	151.71	147.38	140.92	174.55	115.74	238.96	77.01	160.22
CP 88–1834	149.48	144.49	187.39	128.12	186.75	126.85	198.48	102.89	160.22
CP 88–1762	139.26	170.30	169.21	148.00	174.79	122.74	189.12	107.34	159.06
CP 88–1066	133.54	141.13	148.86	159.15	180.15	117.72	172.27	95.04	150.40
CP 88–1561	164.31	139.68	146.82	134.81	158.96	142.33	152.95	97.52	148.55
CP 88–1836	129.08	124.63	160.53	145.56	122.39	142.89	194.85	77.92	145.70
CP 88–1573	148.67	153.30	159.74	137.75	136.57	108.64	162.12	97.22	143.83
CP 88–1409	128.16	124.95	143.00	118.01	122.87	129.08	127.00	72.76	127.58
CP 72–1210	140.70	99.30	154.23	124.18	104.61	110.02	144.92	66.93	125.42
Mean†	152.65	142.35	163.64	141.85	158.82	127.90	174.67	91.04	151.70
LSD(p=0.1)	32.33	33.99	44.65	21.80	19.47	35.03	30.52		17.11
C.V.(%)‡	14.64	18.24	21.32	17.94	12.82	22.13	15.53		17.60

* Stability-safety index for each clone is calculated at $p = 0.10$ by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 13.29 t/ha at $p = 0.10$.
‡ C.V. = coefficient of variation.

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Table 7.— Theoretical recoverable yields of 96° sugar, in kilograms per metric ton of cane, from first-ratoon cane on Dania, Lauderhill, Pahokee, Terra Ceia, and Torry mucks

Mean yield by soil type, farm, and sampling date

Clone	Dania muck Okeelanta Corp. 1/19/94	Lauderhill muck Wedgworth 12/6/93	Duda 12/28/93	Pahokee muck New Farm 10/26/93	S. Fla. Ind. 12/10/93	Terra Cela muck Knight 12/7/93	Torry muck Eastgate 3/23/94	Stability-safety Index*	Mean yield, all farms
CP 88–1836	122.5	113.9	114.0	68.8	127.3	117.8	122.4	51.7	112.4
CP 88–1561	129.0	106.0	115.3	68.6	130.7	114.8	112.0	49.2	110.9
CP 88–1409	131.6	114.1	117.0	47.2	130.1	119.4	113.1	50.8	110.4
CP 88–1573	127.6	114.6	109.6	65.7	129.9	115.3	108.7	48.2	110.2
CP 88–1508	126.7	108.2	110.5	48.6	127.5	115.9	132.1	48.9	109.9
CP 72–1210	124.0	105.6	117.6	65.2	112.6	122.2	116.7	46.4	109.1
CP 88–1912	122.8	107.0	115.4	55.5	124.3	112.3	118.7	49.0	108.0
CP 70–1133	124.9	102.0	115.3	56.1	123.5	117.2	112.1	47.7	107.3
CP 88–1762	123.1	104.8	113.3	49.5	123.6	112.7	119.5	47.6	106.7
CP 88–1165	123.5	115.5	113.2	28.7	120.5	114.6	117.8	40.0	104.8
CP 88–1834	115.7	104.3	111.7	33.5	116.5	109.1	113.1	39.0	100.6
CP 88–1066	117.2	98.8	115.1	23.3	125.9	112.3	109.4	34.0	100.3
Mean†	124.0	107.9	114.0	50.9	124.4	115.3	116.3	46.0	107.5
LSD(ρ=0.1)	6.5	11.7	6.7	22.9	5.7	8.5	11.1		6.1
C.V.(%)‡	5.6	8.7	6.4	33.4	4.6	6.3	5.8		8.7

* Stability-safety index for each clone is calculated at $p = 0.10$ by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 11.7 kg of sugar per metric ton of cane at $p = 0.10$.
‡ C.V. = coefficient of variation.

Table 8.— Theoretical recoverable yields of 96° sugar, in metric tons per hectare, from first-ratoon cane on Dania, Lauderhill, Pahokee, Terra Ceia, and Torry mucks

Mean yield by soil type, farm, and sampling date

Clone	Dania muck Okeelanta Corp. 1/19/94	Lauderhill muck Wedgworth 12/6/93	Lauderhill muck Duda 12/28/93	Pahokee muck New Farm 10/26/93	Pahokee muck S. Fla. Ind. 12/10/93	Terra Cela muck Knight 12/7/93	Torry muck Eastgate 3/23/94	Stability-safety Index*	Mean yield, all farms
CP 88–1912	23.363	18.777	21.171	7.953	24.546	15.271	16.999	4.325	18.297
CP 88–1165	24.709	17.308	23.439	4.250	20.436	17.193	19.216	3.686	18.079
CP 88–1508	19.275	16.341	16.291	6.399	22.156	13.342	31.662	0.770	17.924
CP 70–1133	19.666	13.564	17.879	10.089	22.017	15.352	23.538	4.895	17.444
CP 88–1762	17.137	17.830	19.044	7.434	21.615	13.755	22.996	4.749	17.116
CP 88–1561	21.189	14.967	16.928	9.032	20.780	16.359	17.040	3.745	16.614
CP 88–1834	17.304	15.027	20.768	4.566	21.721	13.796	22.504	3.839	16.526
CP 88–1836	15.917	14.372	18.348	10.368	15.539	16.985	23.704	2.281	16.462
CP 88–1573	18.988	17.678	17.507	9.464	17.699	12.399	17.622	3.010	15.908
CP 88–1066	15.455	13.979	17.097	3.603	22.816	13.165	19.084	2.035	15.028
CP 88–1409	16.919	14.095	16.889	5.532	15.978	15.383	14.359	1.260	14.165
CP 72–1210	17.489	10.562	18.107	7.838	11.812	13.412	16.916	-0.372	13.734
Mean†	18.951	15.375	18.622	7.211	19.760	14.701	20.470	2.852	16.441
LSD(p=0.1)	4.092	4.057	5.049	3.513	2.931	4.165	4.288		2.482
C.V.(%)‡	17.36	22.21	20.15	41.32	12.91	22.48	16.71		19.85

* Stability-safety index for each clone is calculated at $p = 0.10$ by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 2.255 t/ha at $p = 0.10$.
‡ C.V. = coefficient of variation.

Table 9.— Harvest yields of cane and sugar from first-ratoon cane on Malabar sand and Pompano fine sand

Clone	Yields of cane — Mean yield by soil type, farm, and sampling date			Yields of 96° sugar — Mean yield by soil type, farm, and sampling date			Yields of 96° sugar — Mean yield by soil type, farm, and sampling date		
	Malabar sand Hilliard Bros. 12/14/93	Pompano fine sand Lykes Bros. 12/21/93	Mean yield, both farms	Malabar sand Hilliard Bros. 12/14/93	Pompano fine sand Lykes Bros. 12/21/93	Mean yield, both farms	Malabar sand Hilliard Bros. 12/14/93	Pompano fine sand Lykes Bros. 12/21/93	Mean yield, both farms
	—metric tons per hectare—			—kg per metric ton of cane—			—metric tons per hectare—		
CP 88–1508	100.61	118.69	109.65	136.4	127.8	132.1	13.685	15.200	14.443
CP 88–1762	93.15	110.70	101.92	140.8	123.2	132.0	13.113	13.782	13.448
CP 70–1133	100.80	91.22	96.01	131.4	130.0	130.7	13.216	11.874	12.545
CP 88–1836	85.65	95.77	90.71	139.1	134.7	136.9	11.915	12.901	12.408
CP 88–1066	99.72	100.61	100.16	130.7	115.6	123.1	13.041	11.634	12.337
CP 88–1912	88.77	98.23	93.50	133.8	128.8	131.3	11.839	12.480	12.160
CP 88–1540	84.40	90.75	87.58	139.9	133.0	136.4	11.847	12.073	11.960
CP 88–1561	74.14	98.03	86.08	141.0	129.9	135.5	10.483	12.783	11.633
CP 88–1834	83.61	92.40	88.00	130.6	125.5	128.1	10.933	11.621	11.277
CP 88–1573	79.01	79.93	79.47	141.7	135.7	138.7	11.181	10.839	11.010
CP 88–1165	84.22	76.90	80.56	135.4	114.7	125.0	11.414	8.752	10.083
CP 72–1210	61.92	79.89	70.90	136.5	127.8	132.1	8.489	10.222	9.356
Mean*	86.33	94.43	90.38	136.4	127.2	131.8	11.763	12.014	11.888
LSD (p=0.1)	12.61	19.48	13.26	6.5	12.1	8.6	1.793	2.852	2.136
C.V. (%)†	15.50	16.00	18.72	5.3	8.5	7.8	16.74	15.90	20.18

* LSD's for location means = 6.44 metric tons of cane per hectare, 4.1 kg of sugar per metric ton of cane, and 0.994 metric tons of sugar per hectare at $p = 0.10$.
† C.V. = coefficient of variation.

Table 10.— Yields of cane, in metric tons per hectare, from second-ratoon cane on Dania, Lauderhill, Pahokee, Terra Ceia, and Torry mucks and on Malabar sand

Mean yield by soil type, farm, and harvest date

Clone	Dania muck Duda 10/28/93	Lauderhill muck Okeelanta Corp. 10/14/93	Lauderhill muck Wedg-worth 11/29/93	Pahokee muck S. Fla. Ind. 10/15/93	Pahokee muck New Farm 10/20/93	Terra Cela muck Knight 11/10/93	Torry muck East-gate 2/24/94	Malabar sand Hilliard 12/15/93	Stabil-ity-safety Index*	Mean yield, all farms
CP 87-1475	181.05	169.30	146.49	121.57	123.25	176.56	131.07	105.61	16.52	144.36
CP 87-1226	160.85	177.04	123.91	123.93	96.12	180.68	191.16	89.38	20.12	142.88
CP 87-1490	135.96	176.40	175.09	107.51	92.12	143.03	201.36	101.97	21.94	141.68
CP 87-1248	157.19	152.76	148.37	124.84	98.53	150.17	207.88	66.26	17.45	138.25
CP 87-1737	155.28	190.53	145.67	103.37	79.93	158.81	164.53	93.52	21.50	136.45
CP 87-1274	111.62	168.59	136.14	112.06	101.31	158.10	174.89	87.63	20.72	131.29
CP 70-1133	119.28	150.10	123.60	104.94	75.24	132.10	147.31	89.50	19.16	117.76
CP 87-1733	115.32	152.94	145.40	82.15	94.00	150.71	146.18	54.90	16.27	117.70
CP 87-1121	98.74	151.20	141.88	97.08	51.26	118.31	157.08	97.40	14.47	114.12
CP 87-1628	85.61	150.45	147.98	104.00	45.52	139.46	140.47	80.33	13.02	111.73
CP 87-1018	110.19	113.12	149.42	86.66	23.06	90.53	107.49	57.47	4.76	92.24
CP 72-1210	69.49	118.15	109.53	50.40	82.63	106.57	109.41	61.94	6.34	88.51
Mean†	125.05	155.88	141.12	101.54	80.24	142.09	156.57	82.16	16.02	123.08
LSD(p=0.1)	24.69	19.39	31.71	14.42	21.37	21.22	22.77	23.82		15.13
C.V.(%)‡	13.97	17.90	20.96	17.55	20.31	15.00	11.84	17.70		17.12

* Stability-safety index for each clone is calculated at $p = 0.10$ by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 10.6 kg of sugar per metric ton of cane at $p = 0.10$.
‡ C.V. = coefficient of variation.

Table 11.—Theoretical recoverable yields of 96° sugar, in kilograms per metric ton of cane, from second-ratoon cane on Dania, Lauderhill, Pahokee, Terra Ceia, and Torry mucks and on Malabar sand

Mean yield by soil type, farm, and harvest date

Clone	Dania muck Duda 10/28/93	Lauderhill muck Okeelanta Corp. 10/14/93	Wedg-worth 11/29/93	Pahokee muck S. Fla. Ind. 10/15/93	New Farm 10/20/93	Terra Cela muck Knight 11/10/93	Torry muck East-gate 2/24/94	Malabar sand Hilliard 12/15/93	Stabil-ity-safety Index*	Mean yield, all farms
CP 70–1133	59.6	78.0	93.6	107.6	114.8	104.2	120.6	126.8	17.1	100.7
CP 87–1490	65.8	79.7	98.5	108.4	99.3	103.1	117.6	129.5	16.6	100.2
CP 72–1210	51.3	72.6	96.9	105.4	107.6	106.3	124.2	130.3	17.0	99.3
CP 87–1274	60.6	61.7	92.9	106.7	108.1	99.0	119.2	135.3	16.1	97.9
CP 87–1248	57.3	77.4	97.3	99.9	104.5	91.2	117.0	129.5	16.1	96.8
CP 87–1733	59.0	63.4	86.0	101.5	97.1	103.3	121.2	130.0	15.3	95.2
CP 87–1737	53.0	69.2	91.5	100.9	98.0	104.2	116.6	123.0	15.7	94.6
CP 87–1121	50.0	68.4	100.8	94.5	102.2	94.2	118.5	121.5	15.4	93.8
CP 87–1628	40.4	69.6	97.6	96.1	108.5	100.3	115.5	118.0	14.6	93.2
CP 87–1475	53.6	62.5	98.5	91.2	100.0	90.4	118.0	121.9	14.8	92.0
CP 87–1226	49.4	61.5	84.6	93.9	100.2	88.2	108.8	127.7	14.4	89.3
CP 87–1018	41.4	68.1	84.2	97.9	101.6	84.9	114.8	121.2	14.1	89.3
Mean†	53.4	69.4	93.5	100.3	103.5	97.4	117.7	126.2	15.6	95.2
LSD(p=0.1)	14.0	10.3	15.6	10.7	14.2	10.3	8.4	12.8		4.7
C.V.(%)‡	22.9	17.1	16.9	9.8	14.6	10.1	9.0	8.6		12.8

* Stability-safety index for each clone is calculated at $p = 0.10$ by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 6.1 kg of sugar per metric ton of cane at $p = 0.10$.
‡ C.V. = coefficient of variation.

Table 12.— Theoretical recoverable yields of 96° sugar, in metric tons per hectare, from second-ratoon cane on Dania, Lauderhill, Pahokee, Terra Cela, and Torry mucks and on Malabar sand

Mean yield by soil type, farm, and harvest date

Clone	Dania muck Duda 10/28/93	Lauderhill muck Okeelanta Corp. 10/14/93	Lauderhill muck Wedgworth 11/29/93	Pahokee muck S. Fla. Ind. 10/15/93	Pahokee muck New Farm 10/20/93	Terra Cela muck Knight 11/10/93	Torry muck Eastgate 2/24/94	Malabar sand Hilliard 12/15/93	Stability-safety Index*	Mean yield, all farms
CP 87–1490	8.907	13.966	17.225	11.720	9.391	14.883	23.674	13.159	2.039	14.116
CP 87–1248	8.999	11.868	14.507	12.608	10.271	13.747	24.277	8.517	1.376	13.099
CP 87–1475	9.711	10.700	14.092	11.214	12.386	15.935	15.462	12.898	1.369	12.800
CP 87–1274	6.891	10.444	12.909	11.971	10.906	15.735	20.814	11.954	1.819	12.703
CP 87–1737	8.010	13.416	13.439	10.453	7.851	16.633	19.212	11.980	1.835	12.624
CP 87–1226	7.995	10.980	10.504	11.542	9.675	16.234	20.918	11.414	1.537	12.408
CP 70–1133	7.232	11.675	11.553	11.327	8.699	13.827	17.605	11.295	1.669	11.652
CP 87–1733	6.879	9.697	12.408	8.361	9.383	15.556	17.627	7.094	1.188	10.875
CP 87–1121	4.844	10.419	14.479	9.357	5.277	11.197	18.636	11.866	1.096	10.760
CP 87–1628	3.699	10.493	14.436	9.982	4.873	14.016	16.268	9.794	1.051	10.445
CP 72–1210	3.775	8.544	10.815	5.339	8.886	11.281	13.575	8.101	0.611	8.789
CP 87–1018	5.063	7.774	12.644	8.415	2.318	7.698	12.292	7.181	0.099	7.923
Mean†	6.834	10.831	13.251	10.191	8.326	13.895	18.363	10.438	1.308	11.516
LSD(p=0.1)	2.336	14.468	4.989	2.335	2.961	3.351	3.847	3.957		1.730
C.V.(%)‡	28.24	29.39	24.19	21.75	28.51	18.48	14.91	19.85		22.36

* Stability-safety index for each clone is calculated at $p = 0.10$ by Eskridge's method and use of Shukla's stability-variance parameter.
† LSD for location means = 1.552 t/ha at $p = 0.10$.
‡ C.V. = coefficient of variation.

Table 13.— Dates of stalk counts at nine plant-cane, nine first-ratoon, and eight second-ratoon experiments

Location	Crop		
	Plant cane	First ratoon	Second ratoon
Duda and Sons	7/1/93	7/19/93	7/21/93
Eastgate	7/8/93	7/13/93	7/12/93
Hilliard Brothers	8/17/93	8/18/93	8/19/93
Knight	7/7/93	7/28/93	7/27/93
Lykes Brothers	8/26/93	9/2/93	—
New Farm	9/29/93	10/1/93	8/11/93
Okeelanta Corp.	7/6/93	8/1/93	7/29/93
S. Fl. Industries	6/30/93	7/15/93	7/14/93
Wedgworth	8/15/93	7/26/93	7/23/93